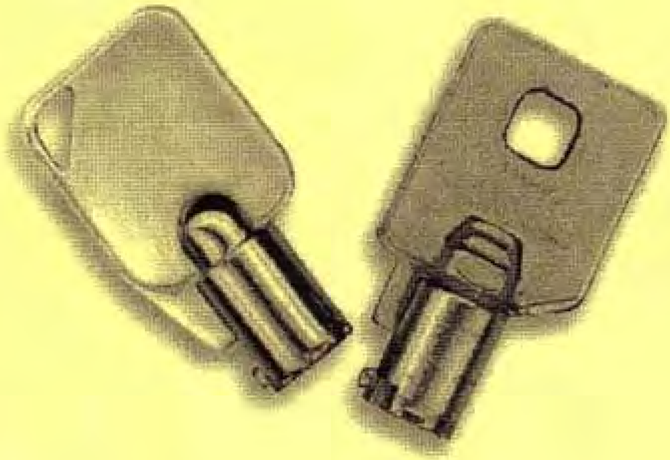
Keys

To Understanding



Tubular Locks

Keys

To Understanding Tubular Locks

A self-teaching manual covering
three basic tubular locks

Desert Publication
El Dorado, Arkansas 71730

Keys
To Understanding Tubular Locks

215 S. Washington Ave.
El Dorado, AR 71730 U. S. A.
1-800-852-4445
info@deltapress.com
Printed in U. S. A

10 9 8 7 6 5 4
Desert Publication is a division of
The DELTA GROUP, Ltd.
Direct all inquiries & orders to the above address.

TABLE OF CONTENTS

TUBULAR LOCKS

REGULAR 7 PIN

The tubular lock, in the form of the regular 7 pin version, has been around for many years; having been invented in the mid-30's. It was so named, "tubular", because of its key being a tube with the tumbler cuts cut around it. The tumblers in the lock mechanism are parallel to the axis and located radially around it. Its high security is basically because of its relocking every 45 degrees of rotation. In a cam type lock, you would have to pick it 4 times to effect 180 degrees of rotation to open the lock. This feature becomes even a greater security factor in the stud type lock that must be rotated as many as 8 to 12 times to open. This type of tubular lock has found great usage on vending machines and coin changers.

NIX—PIX

Another type of tubular lock is the Nix—Pix lock. Although this lock doesn't use a key made from a tube, the tumblers are located radially around the axis of the cylinder. The tumblers are stamped from sheet metal instead of being round. It has 8 tumblers with 4 different depths each. It became very popular because it also had high security for the same reason as the regular 7 pin lock, and also, because the key was constructed to allow its being changed to a new combination, eliminating the need for a key machine. This type lock was a welcome sight to the locksmith because tubular key machines had always been scarce and expensive. Also, the demand for tubular keys on the average locksmith wasn't great enough to justify his investing a large sum on this special key machine.

VAN LOCK

Yet another new tubular lock of this type is the Van Lock. Just a few years old, it is fast becoming a very popular lock on vending machines. There are several reasons for its popularity. It is of simple design, which allows it to be manufactured economically, it offers the same high security as the other tubular locks, and most importantly, the key can easily be changed to a new combination by removing a screw, taking the two halves apart, and moving the actuator pins to new locations. This important feature allows the locksmith to change combinations or make new keys without any investment in equipment, with the exception of a few spare keys.

In the following pages we will look closer at each lock, and the special tools and techniques required to service each of them.

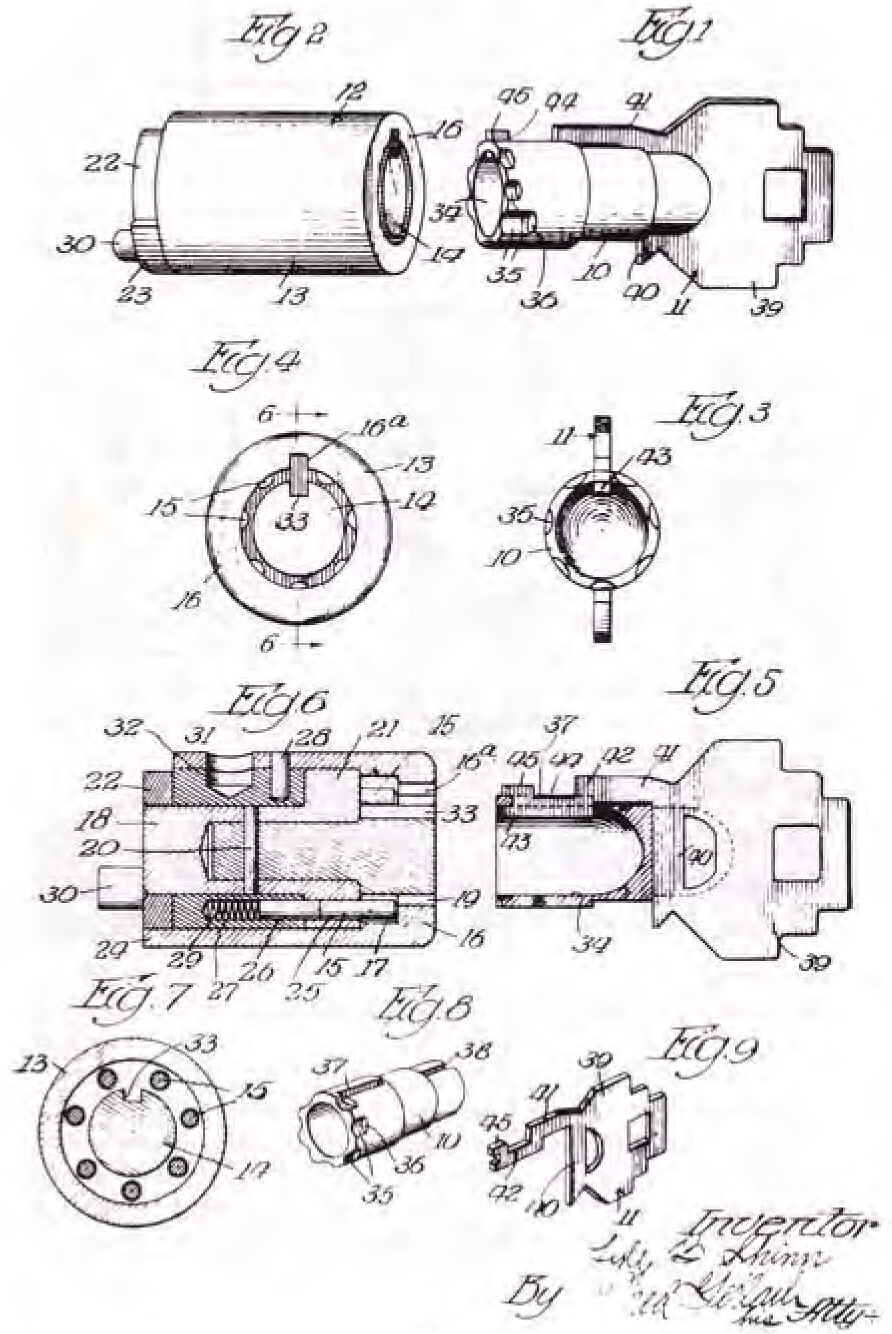
Dec. 11, 1934.

L. B. SHINN

1,984,202

KEY FOR LOCKS

Filed Sept. 4, 1934



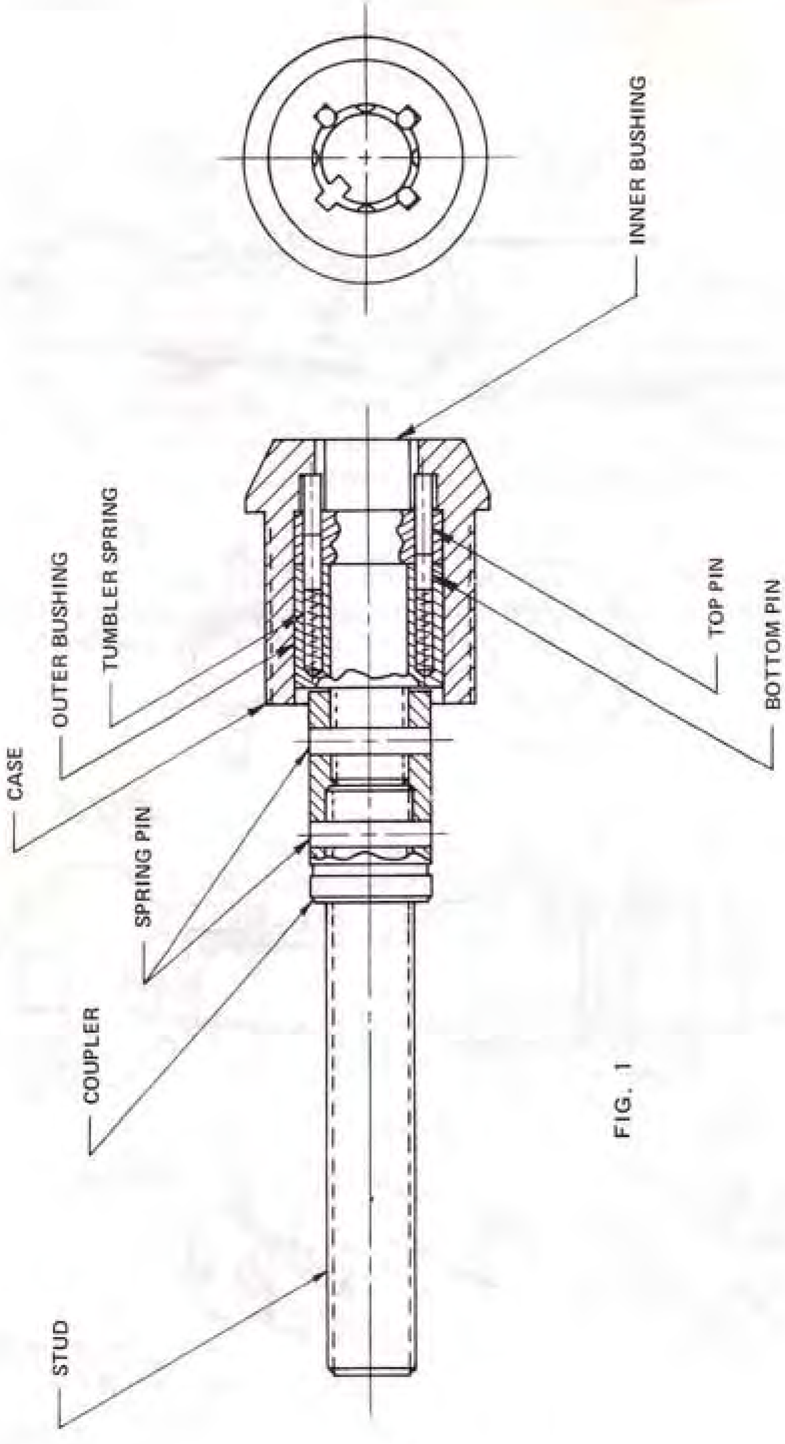

INNER BUSHING
OUTER BUSHING
TUMBLER SPRING
CASE
TOP PIN
BOTTOM PIN
SPRING PIN
COUPLER
STUD

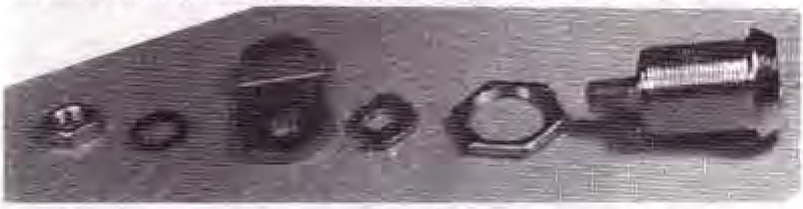
FIG. 1

RE-KEYING THE REGULAR 7 PIN TUBULAR LOCK

Although many have written on this subject, almost all have made an easy job seem difficult. Most difficulty comes from the lack of a good way to hold the mechanism while working on it. Anyone who has had the lock seemingly "explode" in his hand, with pins and springs flying in all directions, can appreciate this problem. Many locksmiths have devised their own means of holding the lock and some have even offered them for sale to others. One such tool is the "Third Hand" which is shown in the pictures in this manual. If you plan to do very much re-keying, such a tool is a good investment. This tool is available from: All-Over Lock & Safe, 14922 East Pacific Ave., Baldwin Park, CA Zip code 91706.

The second thing you will need is a supply of parts for re-keying and repairing. Two very handy kits are put together by the Zipf Lock Co. and sold by them and other suppliers. They are called Ace service kits ASK-25 and ASK-30. The ASK-25 contains bushings, outer cases, couplers, cams, retainers, and bolts while the ASK-30 contains pins, cut keys and follower tool.

To re-key, it will be necessary to remove the nut, lock-washer, cam and cam washer from the rear of the lock.

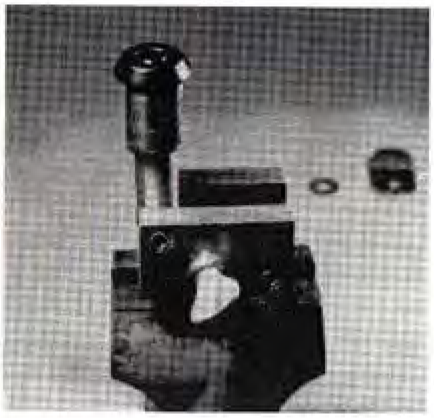


Place the lock in the Third Hand tool in a horizontal position and clamp firmly in place with the thumb screw on the tool.

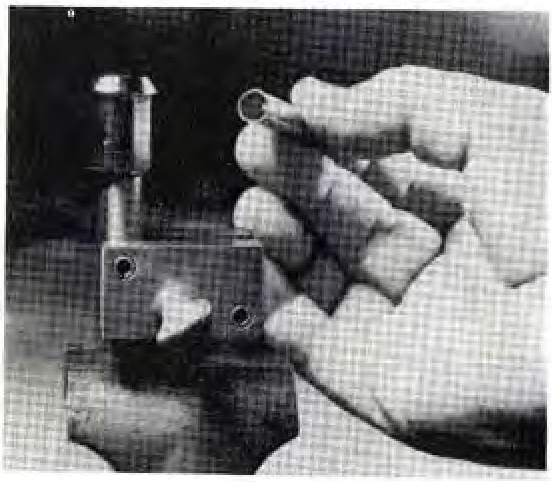
With a No. 29 drill bit, drill out the retaining pin in the side of the lock case. Because the retaining pin may have a slight protrusion or tit in the center, you may find drilling easier if first you remove this with a small grinder such as a Dremel tool. Use care to drill in the center of the pin so as not to enlarge the hole in the case or outer bushing.



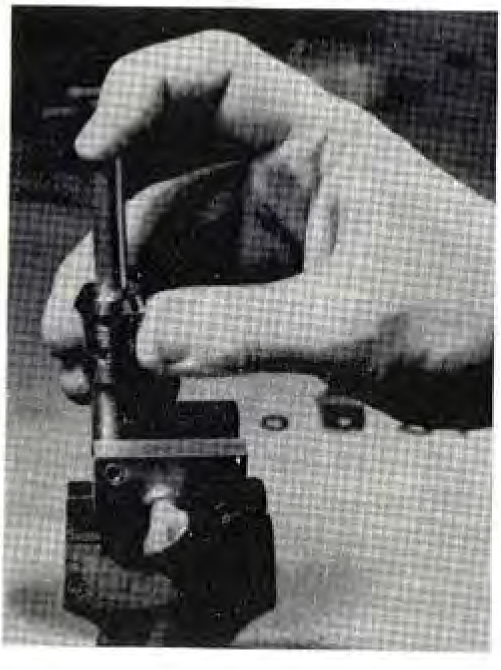
Once the retaining pin has been drilled out, you can loosen the thumb screw and raise the cylinder mechanism to the vertical position.



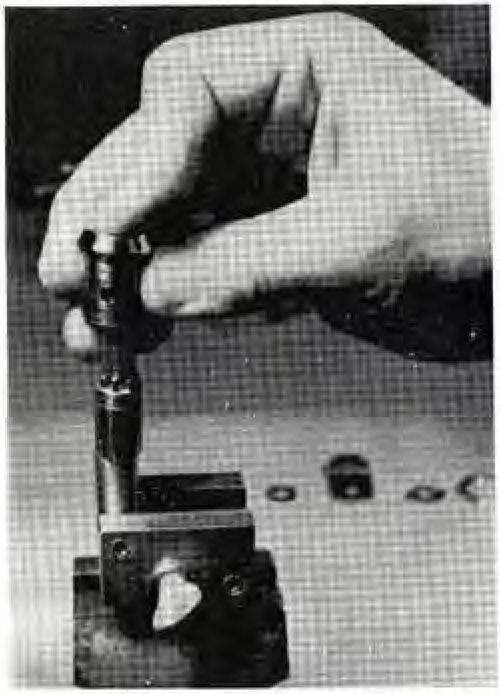
With the follower or set-up tool that comes with the ASK-30 re-keying kit . . . .



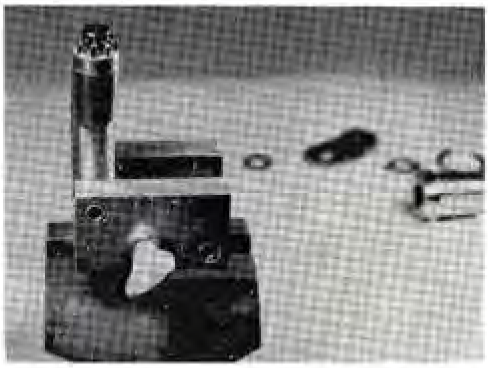
insert into the top of the cylinder . . . .



and carefully lift the outer case off the bushing assembly.



Thus exposing the pins for easy re-keying . . . .



When completed, re-install the outer case, lower to the Horizontal position and lightly tap in a new retaining pin with the holes in the case and outer bushing aligned. Remove, place on a block of wood to protect the threads, and drive the pin in completely.

The Ace tubular lock contains 7 tumblers (.078 in. in Dia.) which vary in length in increments of .015 of an inch. The length of the pins are as follows:

No. 1 = .205
No. 2 = .220
No. 3 = .235
No. 4 = .250
No. 5 = .265
No. 6 = .280
No. 7 = .295

There are 3 different lengths of bottom pins. Their lengths are: .125, .140, & .180 inches.

You will note that the top pins are square cut on one end and rounded on the other. The flat end must be installed so that it will contact the cut in the key. The rounded ends should contact the bottom tumblers.

The correct length of bottom pin should be selected to avoid compressing the spring too much. They should be used as follows:

Top pins No. 1, 2 or 3 should have a .180 bottom pin.
Top pins No. 4 and 5 should have a .140 bottom pin.
Top pins No. 6 and 7 should have a .125 bottom pin.

ADDITIONAL NOTES

The Ace key has 7 tumbler cuts around it. Their depths are as follows:

No. 1 = .020
No. 2 = .035
No. 3 = .050
No. 4 = .065
No. 5 = .080
No. 6 = .095
No. 7 = .110

When re-keying locks on some vending machines and coin changers, it will be necessary to drive out the small pin and unscrew the coupler from the lock mechanism. When reassembling, screw the coupler back on until the holes line up and re-install the pin, or a replacement pin which is part of the ASK-25 service kit.

A follower tool can be made from a 1½ in. length of tubing that has an O.D. of .375 in. and an I.D. of .312 in.

For the purpose of decoding a picked lock, the lengths of the space between the outer surface of the lock to the end of a top pin resting on the shear line is as follows:

No. 1 = .230
No. 2 = .215
No. 3 = .200
No. 4 = .185
No. 5 = .170
No. 6 = .155
No. 7 = .140

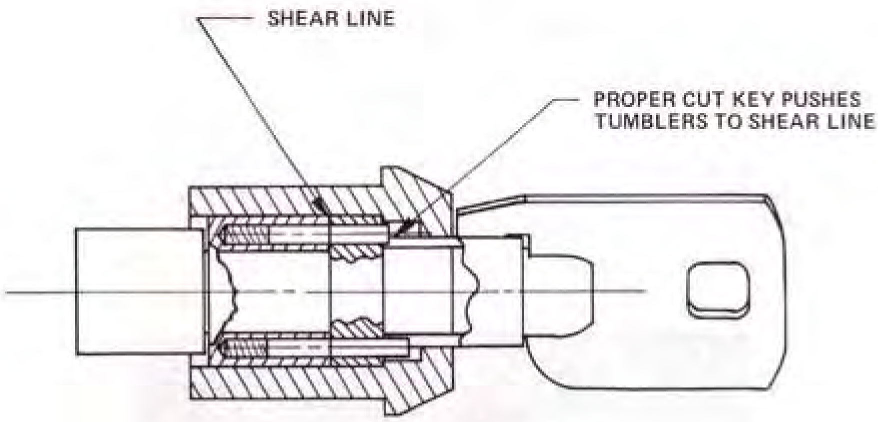

SHEAR LINE
PROPER CUT KEY PUSHES
TUMBLERS TO SHEAR LINE

FIG. 2

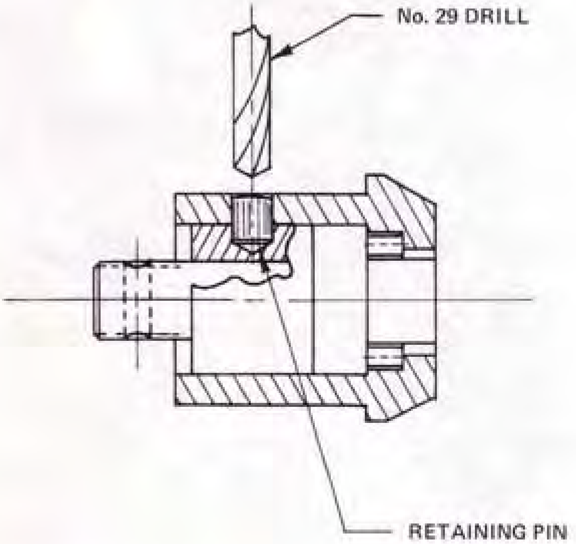

No. 29 DRILL
RETAINING PIN

FIG. 3

PICKING THE 7 PIN TUBULAR LOCK

If you plan to do very much tubular lock work, you should invest in a pick tool as shown in the picture below. They are available in 3 versions: center, left and right. This has reference to the position of the keyway to the circle of tumblers.



The center position is by far the most popular, and this one tool will allow you to service a large majority of Ace type tubular locks.



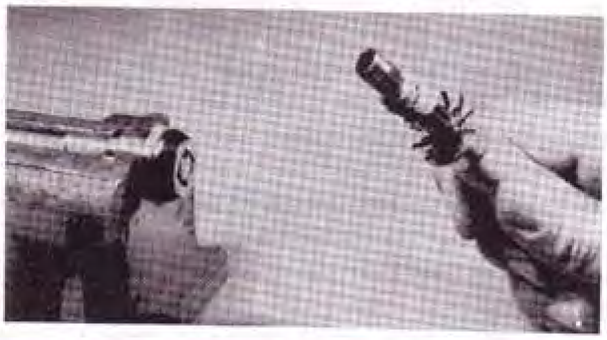
Set-up your tool to pick as shown. Push forward on the washer, forcing all the actuator bars to a position beyond the end of the tube.



Push the tool gently and squarely against a flat surface. This now positions the actuators exactly flush with the end of the tube.

This tool comes with a large rubber band holding the actuators. This band provides just enough friction to allow the actuator bars to slide slowly to the rear while picking. They will slide to a point where the shear line of the tumbler has been reached.

This form of picking is actually better described as impressioning because the tool takes on the shape of a cut key.



Grip the tool as shown. Use care to grip the handle in a manner so that your fingers don't touch the washer.



Insert the tool into the keyway. Make sure that it is parallel to the axis of the cylinder.

Once it is slightly inserted, apply a light turning force in the direction of opening. This is usually to the right except for stud type locks found on vending machines, coin changers, etc., where the cylinder must turn to the left to unscrew the stud.

While applying a constant turning force, start moving the tool in and out with short, straight strokes.

Continue this motion while slowly inserting the tool deeper into the lock. Keep your strokes the same short length (about .050 in.).

You should be able to feel some of the tumblers reach their shear line. If your movement has hit bottom and the lock hasn't opened, then remove the pick tool and repeat your previous steps.

It may take several trys to get your technique developed. The tension provided by the rubber band is very important. You may want to try picking with more or less tension on the actuator bars.

Once the lock has opened, take care not to turn it to where it will lock again. Turn it only about 22½ degrees. Now, with the tool held parallel to the lock axis, push the actuators firmly forward. They are now pressing against the top pins which are resting on the shear line. Thus they now are at the same depth as they would be had a regular key been used.

Carefully remove the tool so as not to disturb their position and place another rubber band around them to aid in holding in place. When they are firmly held in place, the tool can be used as a key to both work the lock or to place on a key machine and duplicate a permanent key. It can also be read to determine the code of the lock.

The picture below shows a padlock being picked. Press in on the shackle to remove some of the spring tension on the cylinder and procede as you did before.



In the field you would have to hold the padlock in your hand instead of in a vise; which makes things more difficult.

For picking practice you should have your cylinder held firmly in a vise, or mount it in a hole in a piece of wood or metal. Do not clamp the vise too tight so as to damage the mechanism.

When opening vending machines, etc. in the field, first determine if they are cam locks or stud type. Most modern machines are cam type in a "T" handle or with the cylinder coming clear out, revealing a hex head screw that must be unscrewed with a large allen wrench.

If you encounter a stud type, remember that it locks by screwing in to the right. Sometimes the last person closing the machine will torque the lock down tight, thus causing you some picking problems. This can be avoided by pushing in on the door while picking. You can also push the door in a little and hold it with pieces of strong filament type tape.

If you don't want to invest in special picking tools (they are quite expensive), you can improvise a torque wrench and pick the lock to an open position by more conventional methods. See page 22. This torque wrench was made from an empty .30 M1 Carbine cartridge. Punch out the spent primer and solder a handle of your choice in the remaining hole. Try the case in a lock. It may fit tight enough not to need a keying lug as shown. Make your pick from a piece of flat spring stock.

While using the wrench to provide turning force, use the pick to pick each tumbler to its shear line. The lock will open and can be decoded as shown.

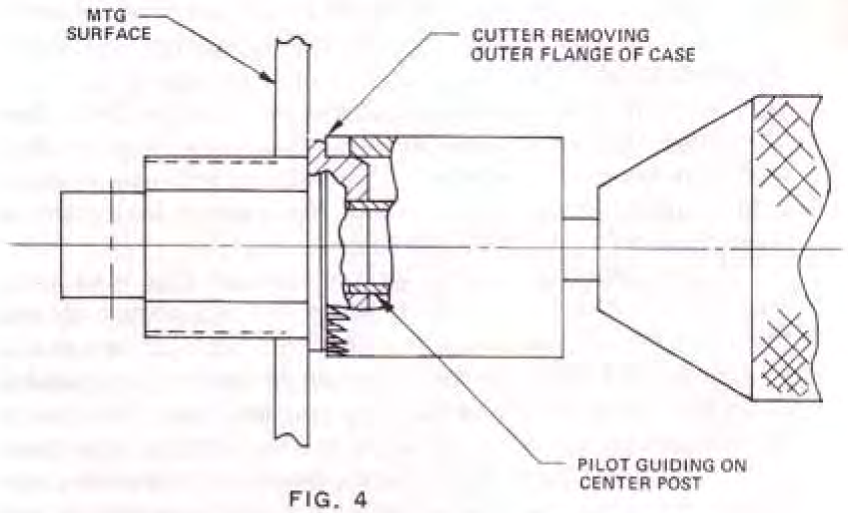

MTG SURFACE
CUTTER REMOVING OUTER FLANGE OF CASE
PILOT GUIDING ON CENTER POST

FIG. 4

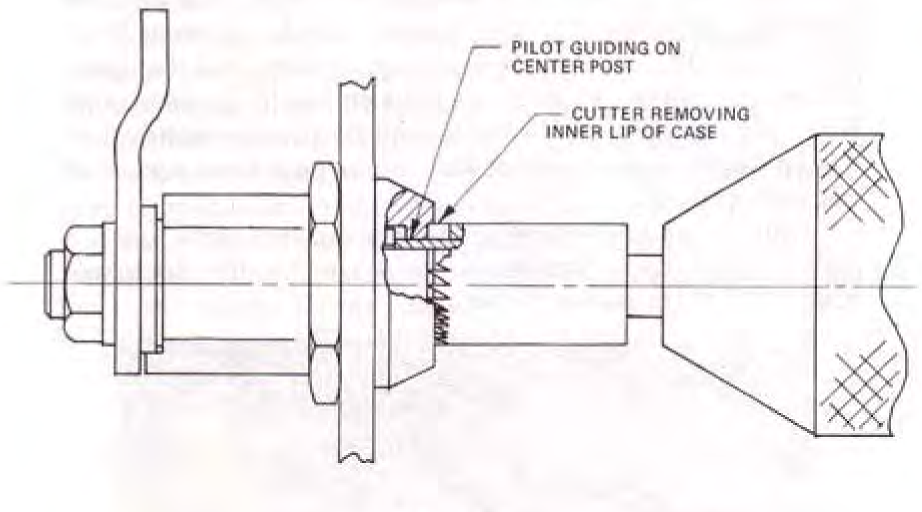

PILOT GUIDING ON CENTER POST
CUTTER REMOVING INNER LIP OF CASE

FIG. 5

OPENING BY DRILLING

To the author, opening any lock or safe by drilling is obscene and vulgar. To me, a lock is an almost human combination of mechanical devices which challange my intelligence and skills. To have to resort to brute force methods, seemingly, admits defeat. However, the economics of locksmithing demand that we expedite our work. This means that it is often quicker and more economical to destroy a part of the lock and replace it than to spend too much time with the original.

There are several different drills, or perhaps better called saws, available for drilling the Ace tubular lock. The illustrations in figures 4 and 5 do not represent any particular brand but rather show two approaches to drilling. In figure 4 the saw is guided by a pilot which goes into the keyway over the center post. The saw portion removes the outer flange of the case. This method is most useful on stud type locks. When this flange is removed, the door will open with the lock being pulled back through the hole in the door. You can now replace the case of the lock or replace the entire lock and salvage the usable parts from this lock for use later.

In figure 5 the pilot is, again, guiding over the center post and, also, pushes the top pins in, away from the teeth of the saw which is removing the inner lip from the case. When this is sawed through, carefully remove the saw, and the top pins can be pulled out and decoded if desired. The bottom pins may protrude far enough to grip them with tweezers. If not, try tilting the machine forward, if possible, and tap the lock to cause them to fall our forward. Another method is to puch them, one by one, behind the shear line with a small wire while applying turning force to the center post. This will have to be repeated 4 times until the cam has turned 180 degrees to open.

MAKE-SHIFT TUBULAR KEY

Sometimes a locksmith is called upon to service a tubular lock when away from his shop or without a key machine handy. The following drawings show the details of how to make a tubular key from an empty .38 Special pistol cartridge.

With a small punch, knock out the spent primer. You will now need to bend a short length of wire (.050 to .060 dia.) into a "U" shape and place over the end of the case. See figure 9 . Bend it so it will stay in place on its own and solder in place. After soldering, file the end flush with the end of the case. Also, file the other end of the exposed portion of the wire to the .120 dimension. The inside length of the wire isn't critical. About .250 long will do. If you wish, a flat washer can be fitted and soldered in place for a handle.

To fit a key, first scribe vertical lines every 45 degrees as shown in figure 11. Scribe horizontal lines to correspond to the correct tumbler depths from the decoded lock. See Page 9 for dimensions of the tumbler cuts on keys. Now, file the cuts with a ward file as shown in figure 13. with care and skill you can produce a perfectly functioning key.

NOTE: The brass case is thin and soft, therefore, this blank should only be used until a proper key can be made.

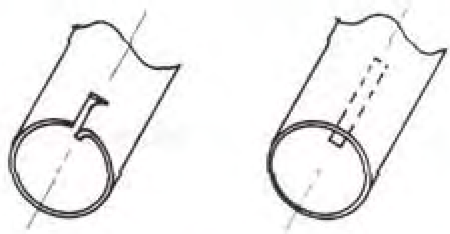


FIG. 6

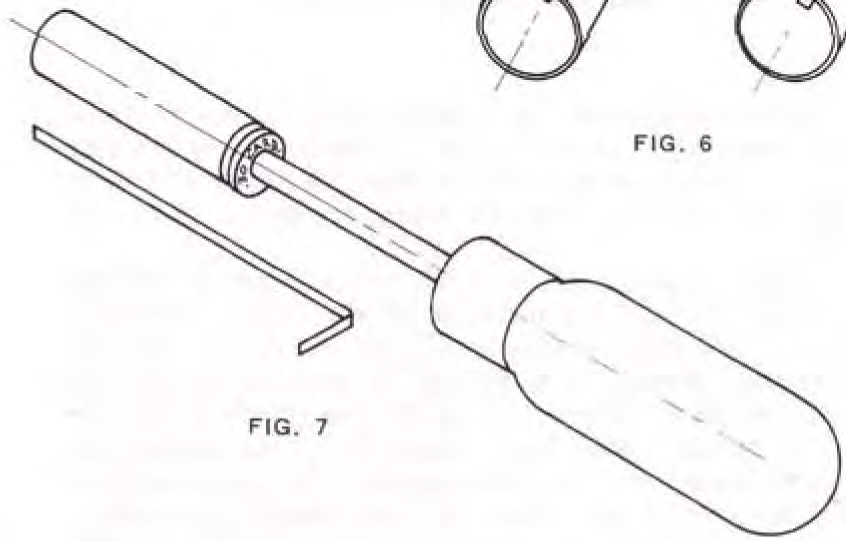


FIG. 7

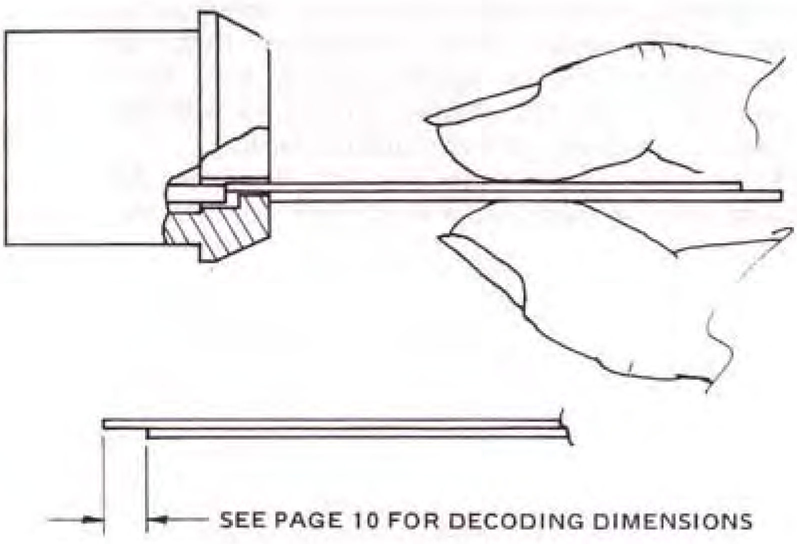


FIG. 8

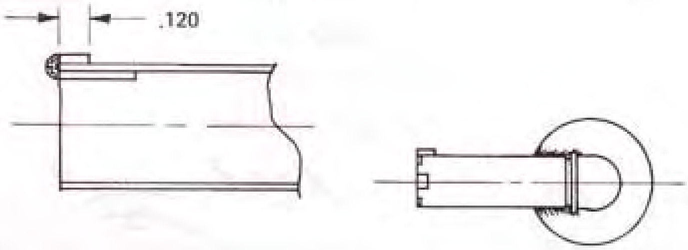


FIG. 9

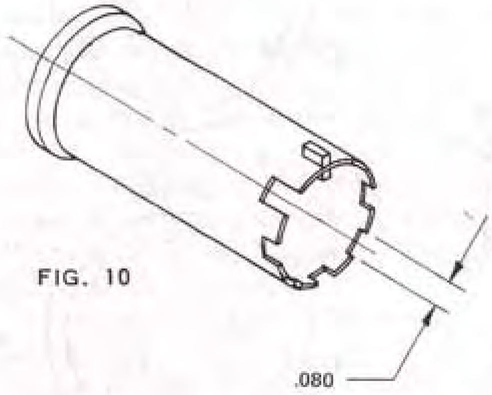


FIG. 10

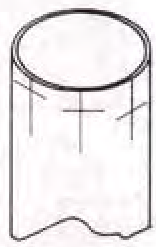


FIG. 11

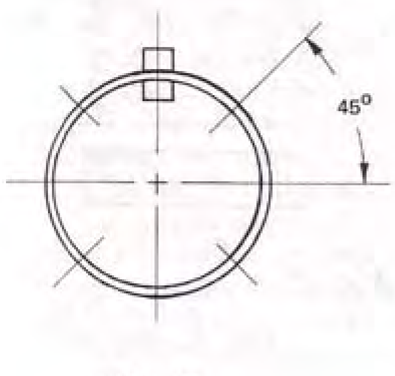


FIG. 12

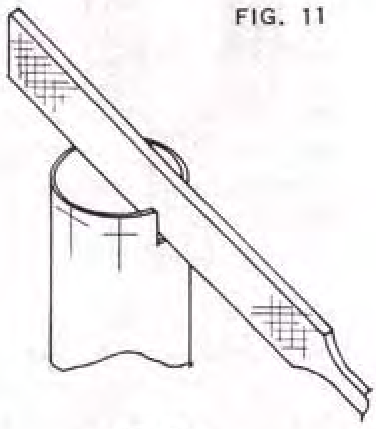


FIG. 13

PIN TUMBLER LOCK

Filed Aug. 10, 1959

Fig. 1

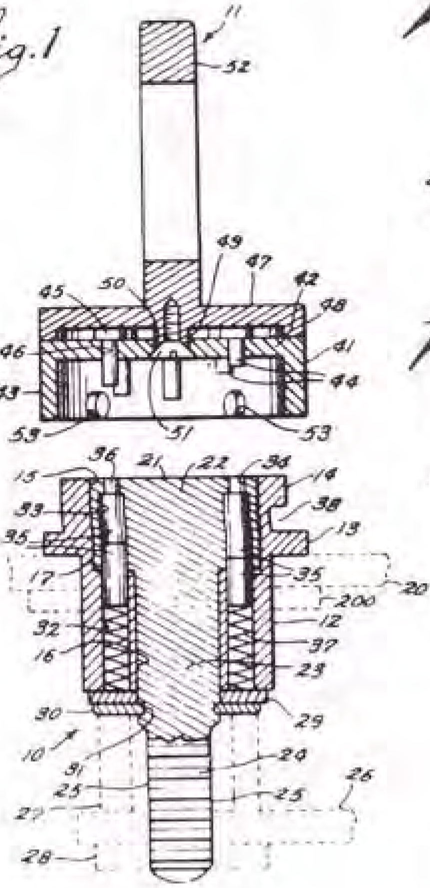


Fig. 2

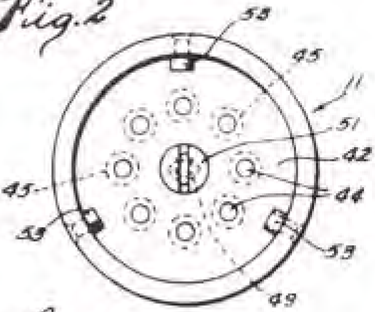
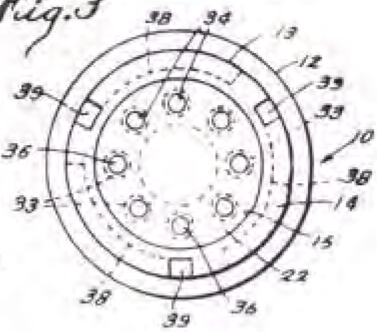


Fig. 3



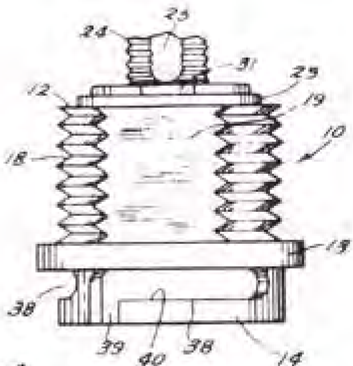


Fig. 4

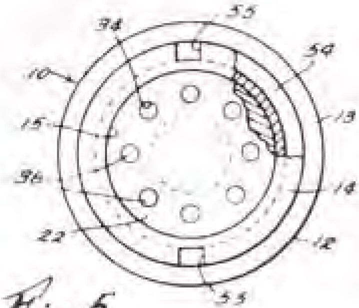


Fig. 5

INVENTOR.
Leo E. Van Lahr
BY
Murray, Sachhoff + Murray
ATT'YS

THE VAN LOCK

The Van Lock is a new type tubular lock that is becoming very popular on many vending machines. This lock finds favor with vending service people and locksmiths for two basic reasons: first, it is of simple construction and well made; and second, it doesn't require a key machine to change the combination or make a new key. The head of the key comes apart to allow the pins to be placed in different positions. There are 7 actuator pins available in 7 different lengths. Looking at the front of the lock, the tumblers number from 1 to 7, beginning with No. 1 being in the one o'clock position and proceding clockwise around to No. 7. Please refer to page XX.

When furnished new, these locks are set to the combination of 1 - 5 - 7 - 3 - 6 - 2 - 4. These pins can be rearranged to give a total of 5,040 different combinations. The lock has a full potential of 823,543 different combinations if extra pins are available.

On the first examination, the Van Lock looks more like an electrical connector than a lock. It is void of the traditional center post and has externally cut bayonet slots to guide and retain the key. The turning force is applied through the actuator pins to the tumbler holes rather than through a keyway as in the regular tubular lock. When first inserted, the bayonet guide pins line up the actuator pins of the key to the tumbler pins and holes of the lock mechanism. When the key reaches its full travel inward, the tumblers are now at their shear line and the key and lock mechanism can be turned in the direction of the bayonet cuts on the lock case.

The tumblers are radially spaced at 45 degree intrevals with the exception of the first and last one which are spaced 90 degrees apart. Just like the regular 7 pin tubular lock, the Van Lock will relock every 45 degrees of rotation. This fact becomes in important consideration when picking this lock, as it did with the regular 7 pin pin tubular lock.

There are two ways to pick or impression and decode this lock. One way is with a specially constructed picking tool available from locksmith suppliers. It is very similar to the tool previously discussed with the regular 7 pin tubular lock. Like the Van key, this pick transmits turning force through the actuator pins rather than through a keyway. It has a nylon cup which acts as a guide over the case of the lock. The bayonet slots in the case are not used except as an indication as to which direction the lock should be picked open.

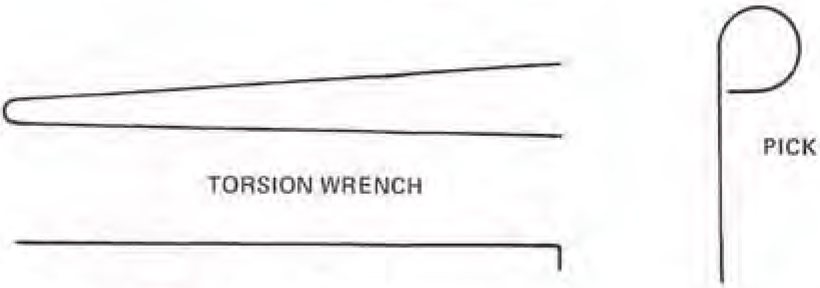
With the washer on the tool, push the actuators out beyond the nylon cup and make sure that they are even with each other. With the actuators of the pick parallel with the axis of the lock mechanism, insert them into the tumbler holes. When they are inserted about .030 in., apply a slight turning force in the direction of the bayonet slots. Keep this turning force at constant level and begin a straight in and out movement of small strokes, increasing the insertion depth until the lock opens. If the nylon cup bottoms out and the lock still isn't open, then remove the tool and repeat the above procedure.

When the lock opens, be careful not to allow it to relock in the next position. Turn it about 22½ degrees, or half way between the tumbler holes. Now push the actuators of your pick, firmly, all the way forward. They have now impressioned the tumbler depths. Carefully remove the tool and apply another rubber band to firmly hold the actuators. You may now use the pick tool as a key, or you may choose to read the depths and reset a key to fit the lock.

If you read 7 different depths, then set the key the same. If you read less than 7 different depths, then you may have to try two or three different settings to obtain the correct one. For example: 4 different depth readings would mean a maximum of 4 possible key settings; 5 different readings would require a maximum of only 3 settings.

The second way to pick this lock is with a "V" shaped torque wrench as shown on page 27 . This can be formed from about .030 to .040 in. dia wire. The exact shape isn't important. Turn the two ends down as shown about .050 to .060 in. The only other tool you will need will be a pick.

This can be a short piece of .025 in. dia piano wire with a loop on one end so you can hold it between your fingers.



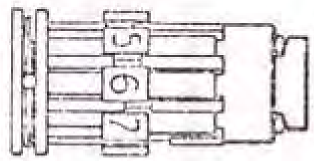
First, select two of the deepest tumblers, preferably on opposite sides of the circle of tumblers. To do this, insert the torque wrench into any two holes, apply some turning force, and feel the tumblers with your pick. Select the deepest ones to insert the wrench into.

With the wrench now in these holes, apply a small amount of turning force. With the pick, gently push each tumbler in, feeling for the shear line. With considerable practice and a good sense of touch, it is possible to "read" the lock and set a key to fit without ever picking it.

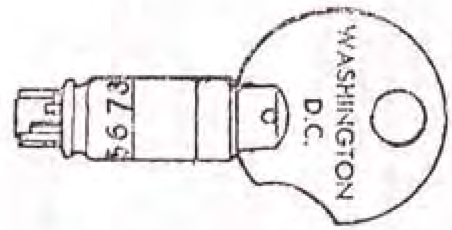
This lock is picked very much like the regular 7 pin tubular lock. Push each tumbler gently inward. One should hang on the shear line. As each tumbler reaches the shear line, the cylinder turns a little more until all tumblers are on the shear line, then the lock will open or turn.

When the lock is picked and the cylinder starts to turn, be sure not to turn far enough for the tumblers to re-lock in the next holes. Stop turning at a point about half way between the holes (22½ degrees). Use a piece of masking tape over ½ of the front of the lock. This will hold the cylinder in this unlocked position for the decoding of ½ of the tumbler depths. Then this is completed, place another piece of masking tape over the second ½ and remove the first piece of tape. Now procede to decode all remaining tumblers.

The NIX-PIX lock is comprised of two basic elements . . . .

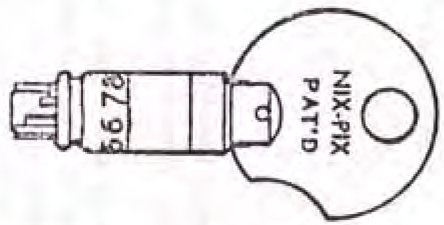


(1) Cylinder mechanism

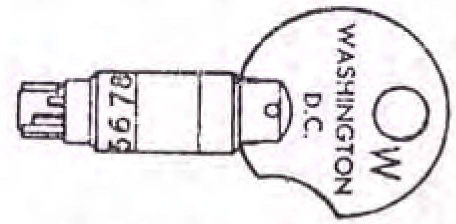


(2) Changeable combination key

Two keys are employed in the NIX-PIX lock system . . . .



(1) The normal operating key
with aluminum handle



(2) The withdrawal key with
brass handle stamped "W"

We are now ready to proceed with the recombinating ......

IMPORTANT ----- It is of utmost importance that the combination of every lock be recorded. This record should be kept under safe keeping and is the key to your control of the NIX-PIX lock system. The NIX-PIX lock system eliminates the need of a complex and burdensome spare key setup since any NIX-PIX key will open any NIX-PIX lock after the key has been set to the right combination.

Select a new combination and record on a card .... for example:

TUMBLER No.	1	2	3	4	5	6	7	8
Present position	1	2	1	3	1	2	1	3
New position	2	4	3	3	2	4	3	3

The present combination is 1 - 2 - 1 - 3 - 1 - 2 - 1 - 3 and is being changed to the new one.

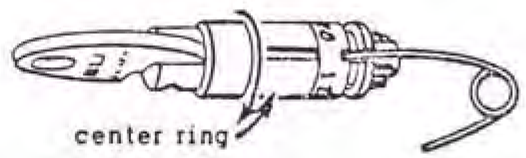


Fig. A

STEP ONE ......

Set withdrawal key to present combination to enable you to withdraw the cylinder mechanism.

With a strong safety pin or similar object, press into slot between station 1 & 8, unlocking the center ring and allowing it to rotate.

Turn to station 1 and set actuator as shown in figure (B).

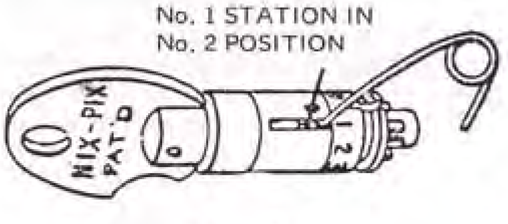


Fig. B



Fig. C

STEP ONE (continued) . . . . . .

Slide actuator so that 2 slots are visible. Each actuator has 4 slots (see figure C) which correspond to the 4 positions of the tumblers.

1 slot visible = No. 1 position
2 slots visible = No. 2 position
3 slots visible = No. 3 position
4 slots visible = No. 4 position

Continue rotating center ring and set actuators until all stations have been set to the new combination. We are now ready to remove the cylinder mechanism from the lock case.

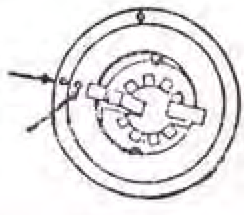


Fig. D

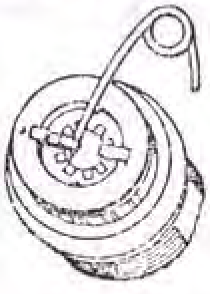


Fig. E

STEP TWO . . . . . .

Insert key and turn mechanism to left until dot on mechanism lines with dot on left side of cylinder or with left mark on padlock case as shown in figure (D).

Remove key and withdraw mechanism with pin as shown in figure (E). When removing mechanism from padlock, lift the padlock at the shackle and the mechanism will fall out.

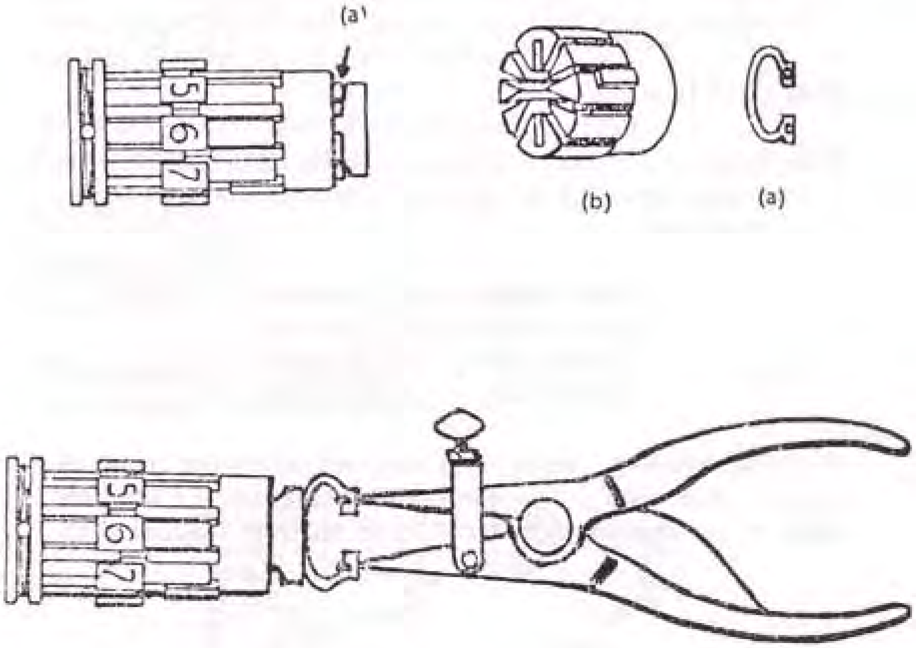


Fig. F

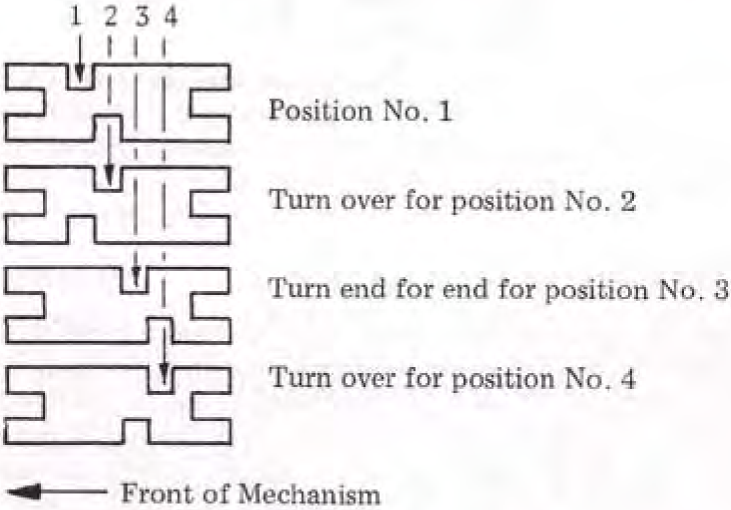
STEP THREE . . . . . .

You are now ready to set a new combination in the mechanism. With No. 2 Tru-Arc pliers (or pin), remove the Tru-Arc ring (a) and slip off the spring chamber (b), as shown in figure (F).

Tru-Arc ring No. 5101- 35 is used

STEP FOUR . . . . . .

Reset tumblers to new combination. Tumbler positions are identified as shown. Note that the two cutouts are nearer one end than the other.



Showing tumbler in position 2 being set in station 5

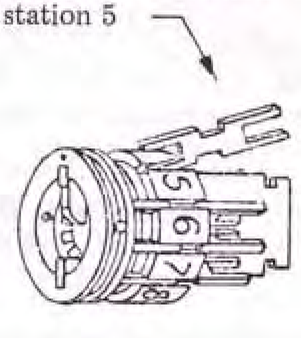


Fig. G

You will note that the positions keep increasing in four equal increments. The nearest to the front is No. 1 and the farthest is No. 4.

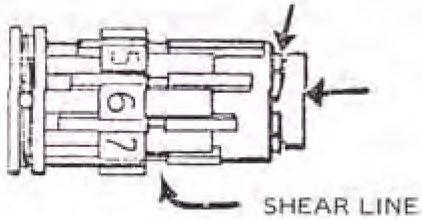


Fig. H

STEP FIVE . . . . . .

After all tumblers have been reset to new combinations, re-assemble mechanism by reversing procedure in figure (F). The correctness of your new combination can be checked by inserting the key into the mechanism. If all the tumblers have been correctly set, the cutouts will all line up with the shear line as shown in figure (H). Insert mechanism into case with dot on mechanism in line with left dot on case. Use the withdrawal key set to the new combination, and rotate mechanism to line up with top dot on cylinder case or the long mark on padlock case. Remove key and the lock is ready for normal operation. Reset the normal operating key to the new combination by following step one, and you now have a completely new lock.

REMEMBER . . . . . . Any NIX-PIX key will open any NIX-PIX lock when set to the proper combination . . . .

SAFEGUARD . . . . . the record of a new combination with the same security as you would the combination of a safe!

SUPPLEMENTARY INSTRUCTIONS FOR REMOVING CYLINDER FROM STUD TYPE NIX-PIX LOCKS

All keys and locks, when shipped from the factory, have been set with a combination of 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1. It is therefore necessary to remove the lock cylinder from its housing and reset the keys and lock to that combination which you have selected.

STEP No. 1 . . . . . . Insert the normal operating key (aluminum) handle) into the lock with the moon-shaped notch in the key pointing up. Rotate key to the left (counter-clockwise) until the entire lock can be removed from the vending machine, etc. Observe the face of the lock mechanism and note two small raised dots on the outer rim of the lock housing. If you will compare this lock face to a clock face and the numbers thereon, one of these raised dots is at the twelve o'clock position and the other at ten o'clock. The normal operating key can be removed only when the moon-shaped notch is pointing at the dot at twelve o'clock. Rotate the aluminum handled key until it is in this position and remove it.

STEP No. 2 . . . . . . Insert the brass handled key and rotate it to the left until the moon-shaped notch is pointing to the dot at ten o'clock. Note that on the face of the lock cylinder itself, there is a small dot between the words "Nix" and "Pix". This dot should align perfectly with the dot at ten o'clock on the lock housing. Remove the withdrawal key, and the lock cylinder should now come out easily when tapped against the palm of your hand. If it does not, hold the lock by the stud and tap the side of the lock housing against some fairly hard object, such as a block of wood or a table edge. The lock cylinder should now come out.

STEP No. 3 . . . . . . Follow the steps outlined in the attached sheet for setting the combination on the keys and the lock cylinder.

STEP No. 4 . . . . . . To reassemble the lock, hold it with the screw-type stud pointing down. Drop the cylinder into the lock housing with the dot on the cylinder between the words "Nix" and "Pix" pointing to the dot on the housing at ten o'clock. It will be necessary to rotate the stud with your fingers so that the tang on the lock cylinder drops into the slot on the stud. When it had dropped into place, insert the brass-handled withdrawal key and rotate the lock cylinder so that the dot on this cylinder is opposite the dot at twelve o'clock on the housing. Remove the withdrawal key and file in some place where it won't be used for the operating key.

The withdrawal key can be removed from the cylinder in any position, while the normal operating key will come out only at twelve o'clock and, in a few cases, at six o'clock.

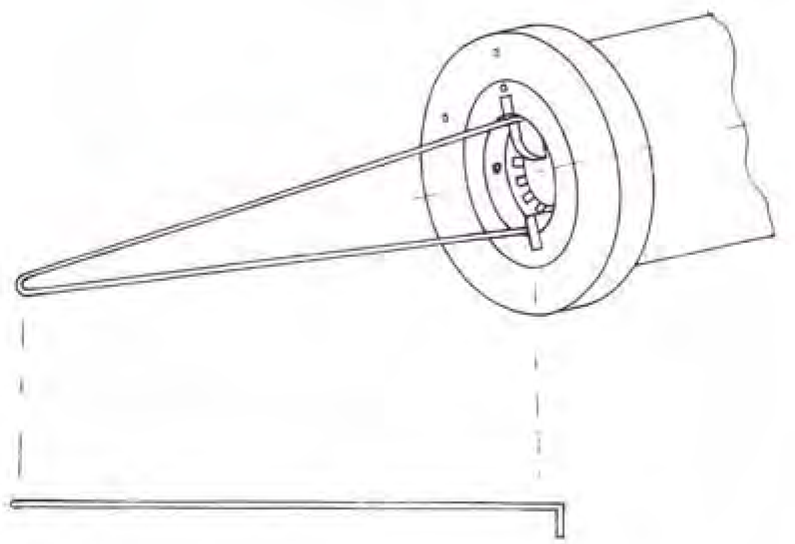
Should you use the withdrawal key to open and close the vending machine, etc., in an emergency, DO NOT remove the key at the ten o'clock position as it would then be possible to remove the cylinder from the housing and operate the screw type stud with a screw driver.

PICKING THE NIX-PIX

Picking the Nix-Pix lock, contrary to its name, is rather easily accomplished.

Make a torsion wrench as shown. The exact shape and dimensions are not important. Use piano wire of about .025 to .040 dia. A pick can be a piece of .025 dia. wire with a loop in it to facilitate its being held between your fingers.

Although we call it picking, the term is not used in the same context as when picking a conventional pin tumbler lock. In a conventional lock, when picked, it opens. With the Nix-Pix, we do not pick it open. This could be done but would be a rather long and laborious job.



Picking this lock requires a very steady and even tension applied with the wrench. With the pick, start pressing the tumblers inward slowly. One by one they will start hanging on the shear line. With the last one picked, the cylinder will turn.

As with other types of tubular locks, the secret is to pick all tumblers to the shear line and when the cylinder gives, stop turning before the tumblers reach the next set of tumbler holes and re-lock. A piece of masking tape is handy to place across the front of the cylinder to hold it in this position.

With the above accomplished, it is an easy task to read the depths of each tumbler. In fact, it is easier with this lock than with a regular 7 pin tubular lock. The regular one has 7 different tumbler heights, while this one has only 4 depths of .050 in. each. This makes it easy to feel the difference with your pick.

Now re-set a Nix-Pix key to the code you have read. If you read 4 different depths, you should be able to set the key on the first try. If you read 3 different depths it may require 2 trys to get the right setting.